

CLAIMS

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1. People conveyor (2) including an endless conveyor band (4) extending through an inclined portion (6), a first and a second turnaround portions (8) and a return portion (5) of an endless path and comprising a plurality of steps (10) connected to and driven by a step chain (12), the steps (10) comprising a step roller (18), the people conveyor (2) further including a step roller track (20) for guiding the step roller (18), the step roller track (20) extends along the path of the conveyor band (4) and has an inner and an outer rails (24, 22) for supporting the step roller (18), and a device (20) for restraining the step roller (18) against one of the inner and outer rails (24, 22).
2. People conveyor (2) according to claim 1, wherein such restraining device (30) comprises an elastic biasing member (40) for elastically biasing the step roller (18) against one of the inner and outer rails (24, 22).
3. People conveyor (2) according to claim 1 or 2, wherein the restraining device (30) is adapted for allowing a gradual transition of the step roller (18) from one of the inner and outer rails (24, 22) to the other one from inner and outer rails (24, 22) in any of the first and second turnaround portions (8).
4. People conveyor (2) according to any of claims 1 to 3, wherein the restraining device (30) is arranged between the step (10) and the drive chain (12).

- 465 5. People conveyor (2) according to any of claim 3, wherein one drive chain (12) is arranged at each lateral edge of the conveyor band (4), wherein each step chain (12) comprises a plurality of chain links (64) and wherein a connecting axle (70) connects one chain link (64) on one side of the conveyor band (4) with one chain link (64) on the other side of the conveyor band (4), and wherein the restraining device (30) is arranged between the step (10) and the connecting axle (70).
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- 475 6. People conveyor (2) according to claim 5, wherein the restraining device (30) comprises a torsion spring (76) attached to the connecting axle (70) and supported thereto with one of the free ends (78) of such spring (76) and having the second free end (80) thereof arranged so as to engage the step (10).
- 480 7. People conveyor (2) according to any of claims 1 to 3, wherein the restraining device (30) is arranged between the step (10) and the step roller track (20).
- 485 8. People conveyor (2) according to claim 7, wherein the restraining device (30) comprises a supplementary roller (50) and a biasing means (40) for biasing the supplementary roller (50) against one rail (22, 24) of the step roller track (29).
- 490 9. People conveyor (2) according to claim 8, wherein the step roller (18) is attached to the step (10) by a connecting arm (16) and wherein the supplementary roller (50) is supported by the connecting arm (16).
- 495 10. People conveyor (2) according to claim 8 or 9, wherein the biasing means (40) biases the supplementary roller (50) against the outer rail (22).

11. People conveyor (2) according to any of claims 8 to 10, wherein the biasing means is a linear spring having a first leg (42) and a second leg (44) being bent with respect to each other by a predetermined angle, further comprising a supporting block (32) at the support arm (16), the supporting block (32) comprising a first and second recesses (34, 36) each portion of the first and second legs of the linear spring being respectively fitted to the first and second recesses (34, 36) to thereby limit deformation of the first and second legs (42, 44) of the linear spring to a predetermined range.

12. People conveyor (2) according to claim 11, further comprising a cover (38) mounted to the supporting block (32) to prevent the first and second legs (42, 44) of the linear spring from being separated from the first and second recesses (34, 36) of the supporting block (32).

13. People conveyor (2) according to claim 11 or 12, further comprising a member (52) for supporting the supplementary roller (50), the member (52) having a recess (53) in which a portion adjacent to the junction between the first and second legs (42, 44) of the linear spring is fitted, and a cover (54) which covers the recess (53) of the member (52).

14. Device (30) for restraining rise of a step roller (18) of a people conveyor (2), the people conveyor (2) including steps (10) circulating a closed loop, a track (20) having inner and outer rails (22, 24) and providing the circulating loop of the steps (10), and a step roller (18) connected to each step (10) by means of a connecting member (16) and rolling along the inner rail (24) of the track (20), the device (30) comprising:

a supplementary roller (50) disposed between the outer rail (22) and the inner rail (24) of the track (20);

an elastic member (40) for supporting the supplementary roller (50); and

a supporting block (32) mounted to the connecting member (16) and fixing the elastic member (40) thereto.

15. Device (30) of claim 14, wherein the elastic member (40) biases the supplementary roller (50) toward the outer rail (24) of the track (20) to roll thereon.

535 16. The device (30) of claim 14 or 15, wherein the elastic member (40) is a linear spring having a first leg (42) and a second leg (44), the first leg (42) and the second leg (44) being bent with respect to each other by a predetermined angle; and

540 the supporting block (32) has first and second recesses (34, 36), each portion of the first and second legs (42, 44) of the elastic member (40) being respectively fitted to the first and second recesses (34, 36) to thereby limit deformation of the first and second legs (42, 44) of the elastic member (40) to a predetermined range.

545 17. Device (30) of claim 16, wherein the first leg (42) of the elastic member (40) has a bent portion (42a) at its tip, the tip being pivotably inserted into the supporting block (32); and

550 the second leg (44) of the elastic member (40) has a bent portion (44a, 44b) at its tip, the tip being configured to contact a bottom surface of the supporting block (32).

555 18. Device (30) of claim 16 or 17, wherein a cover (38) is mounted to the supporting block (32) to prevent the first and second legs (42, 44) of the elastic member (40) from being separated from the first and second recesses (34, 36) of the supporting block (32).

560 19. Device (30) of any of claims 16 to 18, wherein the device (30) further comprises a member (52) for supporting the supplementary roller (50), the member (52) having a recess (53) in which a portion adjacent to the junction between the first and second legs (42, 44) of the elastic member (40) is fitted, and a cover (54) which covers the recess (53) of the member (52).